



536,948

PCT 10/536948

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference V51035WO	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/DE2003/003929	International filing date (day/month/year) 27 November 2003 (27.11.2003)	Priority date (day/month/year) 29 November 2002 (29.11.2002)
International Patent Classification (IPC) or national classification and IPC F16J 1/20		
Applicant	MAHLE GMBH	

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 4 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of \_\_\_\_\_ sheets.

3. This report contains indications relating to the following items:

- I  Basis of the report
- II  Priority
- III  Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV  Lack of unity of invention
- V  Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI  Certain documents cited
- VII  Certain defects in the international application
- VIII  Certain observations on the international application

Date of submission of the demand 24 June 2004 (24.06.2004)	Date of completion of this report 04 October 2004 (04.10.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

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International application No.

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**I. Basis of the report**

1. With regard to the elements of the international application:\*

- the international application as originally filed  
 the description:

pages \_\_\_\_\_ 1-7 \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_ \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_ , filed with the letter of \_\_\_\_\_

- the claims:

pages \_\_\_\_\_ 1-6 \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_ , as amended (together with any statement under Article 19  
 pages \_\_\_\_\_ , filed with the demand  
 pages \_\_\_\_\_ , filed with the letter of \_\_\_\_\_

- the drawings:

pages \_\_\_\_\_ 1/2-2/2 \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_ \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_ , filed with the letter of \_\_\_\_\_

- the sequence listing part of the description:

pages \_\_\_\_\_ \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_ \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_ , filed with the letter of \_\_\_\_\_

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item. These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).  
 the language of publication of the international application (under Rule 48.3(b)).  
 the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.  
 filed together with the international application in computer readable form.  
 furnished subsequently to this Authority in written form.  
 furnished subsequently to this Authority in computer readable form.  
 The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
 The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4.  The amendments have resulted in the cancellation of:

- the description, pages \_\_\_\_\_  
 the claims, Nos. \_\_\_\_\_  
 the drawings, sheets/fig. \_\_\_\_\_

5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

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## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1-6	YES
	Claims		NO
Inventive step (IS)	Claims	1-6	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-6	YES
	Claims		NO

## 2. Citations and explanations

1. The closest prior art, EP 0095052, describes a pin boss for an internal combustion engine that has an inside face into which is formed a groove-like recess that is open at both ends and parallel to the pin's longitudinal axis.

The problem addressed by the invention is to improve the lubricating properties of such a boss not only to ensure pin lubrication in normal operation, but also to provide for good cold-start and emergency properties of the piston pin.

The problem is solved by the features of claim 1, in particular by the arrangement of an outlet to the outside of the piston in the transverse groove parallel to the longitudinal axis and by a circulation groove, with oil feed bore, crossing the transverse groove.

The prior art offers no suggestion either of the proposed solution, as none of the searched documents has the above-mentioned features, nor of the targeted problems of lubrication on cold start or

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emergency operating conditions.

Hence, the designation "of particular relevance" in the search report is untenable.

2. Independent claim 1 has not been properly written in the two-part form and the description of the closest prior art contains a different wording from that of claim 1, and so it is not immediately clear to the skilled person active in this field what contribution the invention makes over the prior art.